

WHAT IS CLAIMED IS:

1. A twin wire former for the production of a fiber web from a fiber suspension, said twin wire former comprising:

a continuous bottom wire and a continuous top wire, each with a direction of wire travel S, which together define a twin wire zone therebetween;

5 a headbox including a headbox nozzle;

a rotating forming roll having an open volume, no suction, a forming roll diameter smaller than 1,400 mm and a forming roll angle of wrap smaller than 7° ;

a forming suction box located immediately following said rotating forming roll, with respect to said direction of travel S;

10 an initial area of said twin wire zone in which said bottom wire and said top wire run over said rotating forming roll, said initial area including a wedge-shaped inlet nip defined by the area wherein said bottom wire, said top wire and said rotating forming roll are initially proximate with the fiber suspension, said wedge-shaped inlet nip receiving the fiber suspension from said headbox nozzle at a stock consistency of between 0.4% and 2.0%;

15 a central area of said twin wire zone in which the fiber web is formed between said bottom wire and said top wire, said central area including a plurality of dewatering elements and a plurality of forming elements;

20 an end zone of said twin wire zone in which said bottom wire and said top wire run over a separating element thereby separating one of said bottom wire and said top wire from the fiber web and from the other one of said bottom wire and said top wire.

2. The twin wire former of claim 1, wherein said forming roll has an open surface volume whereby its surface is at least one of grooved, drilled and deflected.

3. The twin wire former of claim 1, wherein said forming roll has an open surface volume whereby it is constructed in a honeycomb design.

4. The twin wire former of claim 1, wherein at least one additional forming suction box is located downstream from said forming suction box as viewed in said direction of wire travel S.

5. The twin wire former of claim 1, wherein said stock consistency is between 0.6% and 1.5%.

6. The twin wire former of claim 4, wherein said forming suction box and said additional forming suction box are located opposite each other and at a distance from each other.

7. The twin wire former of claim 4, wherein at least one of said forming suction box and said additional forming suction box has a curved suction surface having a radius of curvature of between approximately 1,500 mm and 10,000 mm.

8. The twin wire former of claim 7, wherein said additional forming suction box has said curved suction surface having a radius of curvature of between approximately 2,000 mm and 5,000 mm.

9. The twin wire former of claim 4, wherein at least one of said forming suction box and said additional forming suction box includes at least one suction chamber with a vacuum which is at least one of adjustable and controllable with a controllable vacuum source.

10. The twin wire former of claim 4, wherein a plurality of forming strips are located opposite the at least one of said forming suction box and said additional forming suction box.

11. The twin wire former of claim 10, wherein at least one of said forming strips is mounted flexibly.

12. The twin wire former of claim 10, wherein at least one of said forming strips is mounted stationary, whereby its position is adjustable relative to said bottom wire and said top wire.

13. The twin wire former of claim 1, wherein at least one wet suction box is located downstream from at least one said forming suction box as viewed in said direction of wire travel S.

14. The twin wire former of claim 13, wherein said wet suction box is supplied with vacuum, whereby said vacuum is at least one of adjustable and controllable with a controllable vacuum source.

15. The twin wire former of claim 1, wherein a turning roller is located prior to said separating element as viewed in said direction of wire travel S.

16. The twin wire former of claim 15, further including at least one flat suction box and a said suction couch roll located following said separating element as viewed in said direction of wire travel.

17. The twin wire former of claim 1, wherein said headbox includes at least one machine-wide separating element located in said headbox nozzle.

18. The twin wire former of claim 1, wherein said twin wire zone rises essentially vertically from the bottom to the top as viewed in said direction of wire travel S.

19. The twin wire former of claim 16, wherein said twin wire zone rises with a vertical excursion from the vertical plane of -15° to $+15^{\circ}$.

20. The twin wire former of claim 19, wherein said twin wire zone rises with said vertical excursion from the vertical plane of -5° to $+5^{\circ}$.

21. The twin wire former of claim 1, wherein said twin wire zone rises from the bottom to the top with an incline from the horizontal plane of approximately 5° to 45° with respect to said direction of wire travel S.

22. The twin wire former of claim 21, wherein said twin wire zone slopes in the end zone from the top to the bottom.

23. The twin wire former of claim 1, wherein said separating element is a suction couch roll.

24. The twin wire former of claim 1, wherein said separating element is a transfer suction element.

2025-05-20 15:44:00